IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strikethrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

Please CANCEL claims 1-4, AMEND claim 5, and ADD claim 6 in accordance with the following:

1-4. (Cancelled)

5. (Currently Amended) ~~The wheel support bearing assembly as claimed in Claim 3~~ A wheel support bearing assembly for use with an electrically powered brake system, said electrically powered brake system comprising:

a brake wheel mounted on a vehicle wheel for rotation together therewith;

an actuating unit including brake pieces frictionally engageable with the brake wheel;

a drive unit translating a rotary output of an electric drive motor into a rectilinear reciprocating motion by means of a ball screw mechanism, said rectilinear reciprocating motion being transmitted to the brake pieces as a braking force;

an operating unit controlling the electric drive motor according to manipulation of an operating member;

a rotation detector including a magnetic encoder and a sensor, the magnetic encoder being mounted on a rotating side member of a wheel support bearing assembly for supporting the vehicle wheel, the sensor being mounted in face-to-face relation with the magnetic encoder;

an anti-skid controller regulating the braking force, exerted by the electric drive motor, in dependence on the number of revolutions of the vehicle wheel detected by the rotation detector during a braking effected by manipulation of the operating member, to thereby prevent rotation of the vehicle wheel from being locked,

said wheel support bearing assembly comprising an inner race, an outer race positioned radially outwardly of and around the inner race with an annular bearing space defined between the outer race and the inner race, a series of rolling elements drivingly interposed between the inner and outer races, and the magnetic encoder, said magnetic encoder being mounted on one of the inner and outer spaces which is rotatable relative to the other.

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wherein the magnetic encoder comprises a ring-shaped core metal made of a metallic material and forming a part of the sealing unit, and a ring-shaped multi-pole magnet disposed on a surface of the core metal~~;~~,

wherein the multi-pole magnet is a member having a plurality of opposite magnetic poles N and S magnetized to alternate in a direction circumferentially thereof~~;~~, and

wherein the neighboring opposite magnetic poles N and S are spaced at intervals of a ~~predetermined~~ pitch p that is chosen to be not greater than 1.5 mm, ~~with~~ within a single pitch deviation of ±3%, said single pitch deviation being represented by the difference between maximum pitch and minimum pitch in percentage of a targeted pitch, which maximum pitch and minimum pitch are ~~in distance between the magnetic poles~~ detected by the sensor mounted at ~~the~~ a position spaced a predetermined distance from the multi-pole magnet, to detect passage of the opposite magnetic poles ~~which is expressed by the ratio relative to a target pitch~~.

6. (New) An electrically powered non-hydraulic brake system, comprising:

a brake wheel mounted on a vehicle wheel for rotation together therewith;

an actuating unit including brake pieces frictionally engageable with the brake wheel;

a drive unit translating a rotary output of an electric drive motor into a rectilinear reciprocating motion by means of a ball screw mechanism, said rectilinear reciprocating motion being transmitted non-hydraulically to the brake pieces as a braking force;

an operating unit controlling the electric drive motor according to manipulation of an operating member;

a rotation detector including a magnetic encoder and a sensor, the magnetic encoder being mounted on a rotating side member of a wheel support bearing assembly for supporting the vehicle wheel, the sensor being mounted in face-to-face relation with the magnetic encoder;

an anti-skid controller regulating the braking force, exerted by the electric drive motor, in dependence on the number of revolutions of the vehicle wheel detected by the rotation detector during a braking effected by manipulation of the operating member, to thereby prevent rotation of the vehicle wheel from being locked,

said wheel support bearing assembly comprising an inner race, an outer race positioned radially outwardly of and around the inner race with an annular bearing space defined between the outer race and the inner race, a series of rolling elements drivingly interposed between the inner and outer races, and the magnetic encoder, said magnetic encoder being mounted on one of the inner and outer spaces which is rotatable relative to the other,

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wherein the magnetic encoder comprises a ring-shaped core metal made of a metallic material and forming a part of the sealing unit, and a ring-shaped multi-pole magnet disposed on a surface of the core metal, the ring-shaped core metal having a curved lip covering a radially outermost part of the multi-pole magnet,

wherein the multi-pole magnet is a member having a plurality of opposite magnetic poles N and S magnetized to alternate in a direction circumferentially thereof, and

wherein the neighboring opposite magnetic poles N and S are spaced at intervals of a pitch p that is chosen to be not greater than 1.5 mm, within a single pitch deviation of ±3%, said single pitch deviation being represented by the difference between maximum pitch and minimum pitch in percentage of a targeted pitch, which maximum pitch and minimum pitch are detected by the sensor mounted at a position spaced a predetermined distance from the multi-pole magnet, to detect passage of the opposite magnetic poles.

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